

ABSTRACT

Provided are a flue gas denitration catalyst having high denitration activity and capable of suppressing a side reaction, that is, oxidation of SO₂; and a preparation process of the catalyst. The flue gas denitration catalyst comprises TiO₂, WO₃ and V₂O₅. In the surface layer of the catalyst within 200 μm from the surface thereof, V₂O₅ is supported on a carrier containing TiO₂ and WO₃. The supported amounts of V₂O₅ range from 0.4 to 5 wt.% based on the weight of the surface layer and range from 0.1 to 0.9 wt.% based on the total weight of the catalyst. The V₂O₅ thus supported has a crystallite size of less than 10 nm as measured by X-ray diffraction. The catalyst can be available by preparing a mixture containing TiO₂ and WO₃ and having V₂O₅ supported on the surface of an extruded product of the prepared mixture by a vapor phase method. The catalyst can be also available by having V₂O₅ supported on a powder of the prepared mixture by a vapor phase method and having the resulting powder supported on the surface of a formed product.